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Submitted via www.regulations.gov and via email to khan.matthew@epa.gov

Subject: Comments from the California Water Boards on the U.S.EPA Proposed Interim Registration Review Decision for Imidacloprid (EPA–HQ–OPP–2008–0844)

Dear Mr. Kahn,

On behalf of the California Water Boards, which include our State Board and our nine Regional Water Quality Control Boards, we are submitting these comments on the January 2020 Proposed Interim Registration Review Decision for Imidacloprid (PID). Our agency has Clean Water Act authority over permitting of point and non-point source discharges of pollutants, including pesticides, to waters of the State in California.

We are working cooperatively with the California Department of Pesticide Regulation (CDPR) and stakeholders on pesticide issues, including neonicotinoids, in urban and agricultural runoff. The California Water Boards have identified widespread pollution in waters of the State from the urban and agricultural use of neonicotinoid pesticides. We have developed planning and regulatory mechanisms to address pesticide water quality impairments, but effective U.S. Environmental Protection Agency (U.S.EPA) regulatory actions are needed to ensure the success of these pollution control efforts. Specifically, so that aquatic life can be appropriately protected, water quality standards can be attained, and to reduce the regulatory impacts on state and local governments of responding to pyrethroid pollution.

This comment letter is divided into two sections. The first section addresses urban concerns and the comments are based largely on material provided to the California Water Boards by the California Stormwater Quality Association

The second addresses agricultural concerns and the comments were prepared by our Central Coast Water Quality Control Board (R3).

Urban Concerns

The California Water Boards appreciate and agree with U.S.EPA's determination in the December 2016 Preliminary Aquatic Risk Assessment to Support the Registration Review of Imidacloprid (PARA) that approved uses of imidacloprid present significant risks to aquatic invertebrates. Those risks are affirmed in the January 2020 PID and in the agency's response-to-comments documents, particularly the January 8, 2020 Memorandum, *Imidacloprid: Response to Public Comments Related to the Preliminary Risk Assessments and Addendum to the Non-Pollinator Risk Assessments in Support of Registration Review (Docket No. EPA-HQ-OPP-2008-0844)*.

The California Water Boards further appreciate U.S.EPA's inclusion in the PID of proposed risk mitigation measures to address ecological risks as identified in the PARA for aquatic invertebrates and other non-target species. However, the proposed measures do not adequately address the nature of the threat to aquatic invertebrates from urban uses of imidacloprid, so additional mitigation is necessary.

These comments focus on the need for additional mitigation in the form of additional label restrictions for imidacloprid products, in addition to those proposed in the PID. Below we provide specific suggestions for language for the needed mitigation, as well as a brief summary of the rationale for the need for same.

Risk Assessment Modeling Underestimates Risk from Urban Uses

EPA's modeling of urban/non-agricultural sources ("Modeling for imidacloprid residential and commercial uses", PARA, pp. 209-214) does not adequately characterize the full range of applications of imidacloprid in urban areas.

Most notably, the risk assessment modeling for urban sources excludes applications to impervious surfaces, as indicated by this statement in the PARA:

> "For the Impervious scenario, there is no modeled area of application on a given lot, since imidacloprid is not for use on impervious surfaces in residential settings." [PARA, p. 211]

This statement is inconsistent with permitted non-agricultural Imidacloprid uses for applications to impervious surfaces, as shown by the labels listed in PARA Appendix A (Table A-20), which list multiple examples of permitted use on impervious surfaces.

This inconsistency extends to both the residential and commercial use models, as shown in PARA Tables D-6, D-7 and D-8. The commercial use model includes 0% impervious application and fails to account for other common applications in commercial land use settings.

U.S.EPA's conceptual models, as shown in PARA Figure D-1, the Residential Conceptual Model, and Figure D-2, the Urban Lot Conceptual Model, exclude a number of important urban uses of imidacloprid. Due to its many non-agricultural uses, there are many pathways by which imidacloprid can end up in urban runoff. The allowable urban use patterns are generally characterized as either "structural pest control" or "landscape maintenance", but for imidacloprid there are other urban sources, including impregnated building materials.

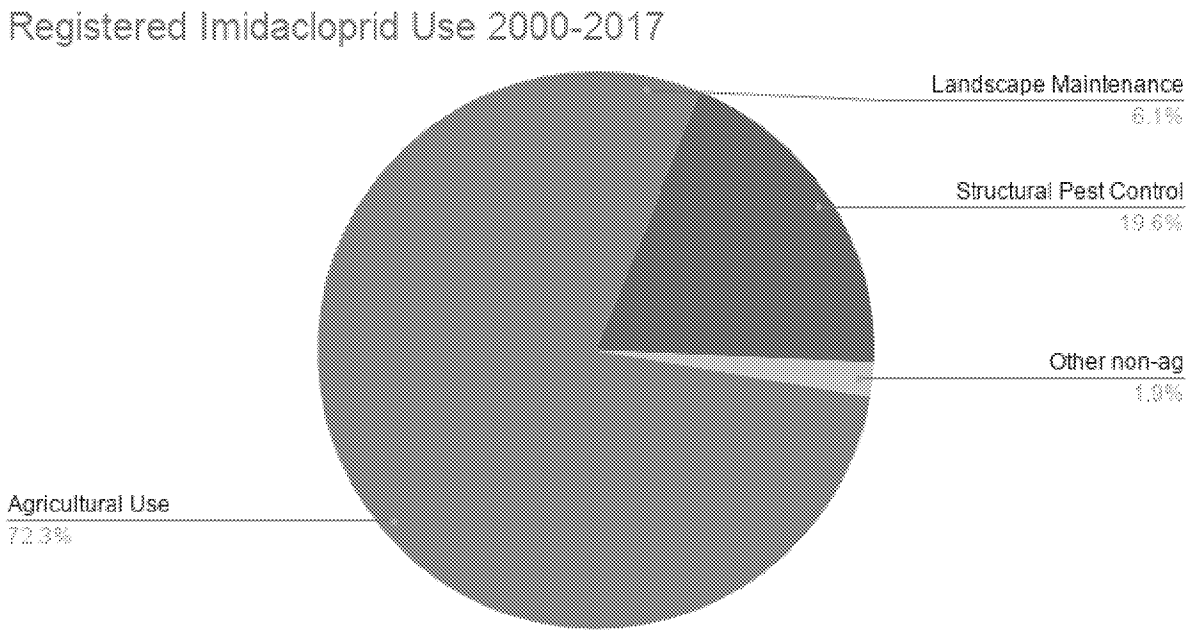
The California Stormwater Quality Association developed a detailed conceptual model linking imidacloprid non-agricultural use patterns ("urban sources") and the transport pathways by which imidacloprid reaches surface water via urban runoff, based on product labels and information in the literature. The net result of the exclusion of urban application sources from the risk assessment modeling is an underestimation of the risks posed by urban discharges of imidacloprid to surface waters.

Structural Pest Control Usage Remains High; Surface Water Detections Continue

Both the December 2016 PARA and the July 2017 CASQA comment letter document the common exceedance of toxicity thresholds for imidacloprid in surface water monitoring data, and the importance of structural pest control in the overall picture of imidacloprid use (c.f., PARA Figure 3-7, Imidacloprid Usage by Non-crop in 2014). Recent data indicate that urban usage of imidacloprid continues at high rates relative to other uses, while detections of imidacloprid in water continue at elevated levels for both urban runoff discharges and receiving waters (creeks and rivers) in California.

In the state of California, pesticides applied by professional applicators are reported to California Department of Pesticide Regulation (CDPR) and then summarized in DPR's Pesticide Use Reporting (PUR) database. Most applications of imidacloprid in urban areas occur as what are known as either "structural pest control" or "landscape maintenance". On an average annual basis, structural pest control and landscape maintenance together comprise over 25% of imidacloprid usage in California, as shown in Figure 1 (CDPR PUR data, 2000-2017).

Figure 1. Registered Imidacloprid Usage in California, 2000-2017



In California, over 90% of the population lives in urban areas[1], so nearly all non-agricultural use, including landscape maintenance and structural pest control, occurs in areas covered by stormwater NPDES permits.

Concurrently, monitoring of urban runoff discharges and urban receiving waters in California continues to demonstrate frequent detections of imidacloprid at levels that exceed the U.S.EPA Aquatic Life Benchmarks (ALB). CDPR monitoring data for the period 2010-2018 are shown in Figure 2 for urban storm drains, and Figure 3 for urban creeks. Data from monitoring of California urban creeks by USGS and local stormwater agencies during the period 2004-2019 are shown in Figure 4. The data used in these three plots are also summarized in Table 1[2]. Additional information on monitoring data sources is included in Attachment 1 to this letter.

Table 1. Summary of Monitoring Data Used in Figures 2-4

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[1] Source: [HYPERLINK "https://lao.ca.gov/2000/calfacts/2000_calfacts_demographics.html"]

[2] CDPR and some USGS data obtained from the CDPR's online SURF database; additional USGS data obtained from USGS databases and reports; City of Santa Barbara data obtained from the agency, and BASMAA and other agency data obtained from the California CEDEN online database. In some cases, sampling sites were designated as urban. In cases where sampling sites were not classified, aerial images were used to classify sites as urban.

	CDPR - Urban Storm Drains	CDPR - Urban Creeks	Other Agencies - Urban Creeks
N:	375	203	448
Detected %	62%	55%	55%
Detected % > Chronic ALB	62%	55%	98%
Detected % > Acute ALB	10%	1%	0.4%
Max Concentration (µg/L)	165	0.726	0.51

Figure 2. CDPR Monitoring Data for Imidacloprid in Urban Storm Drains, 2010-2018

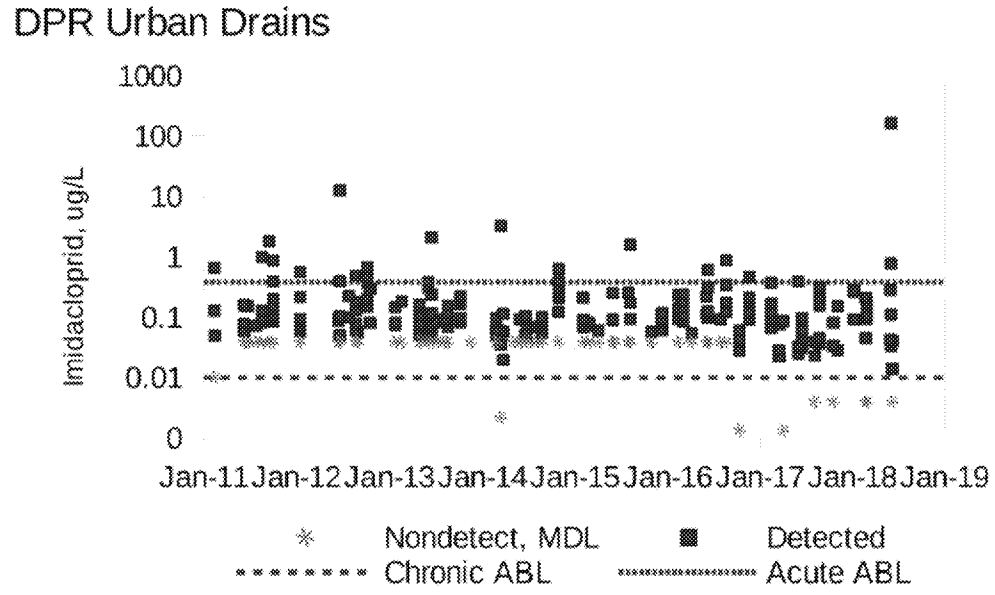


Figure 3. CDPR Monitoring Data for Imidacloprid in Urban Creeks, 2011-2018

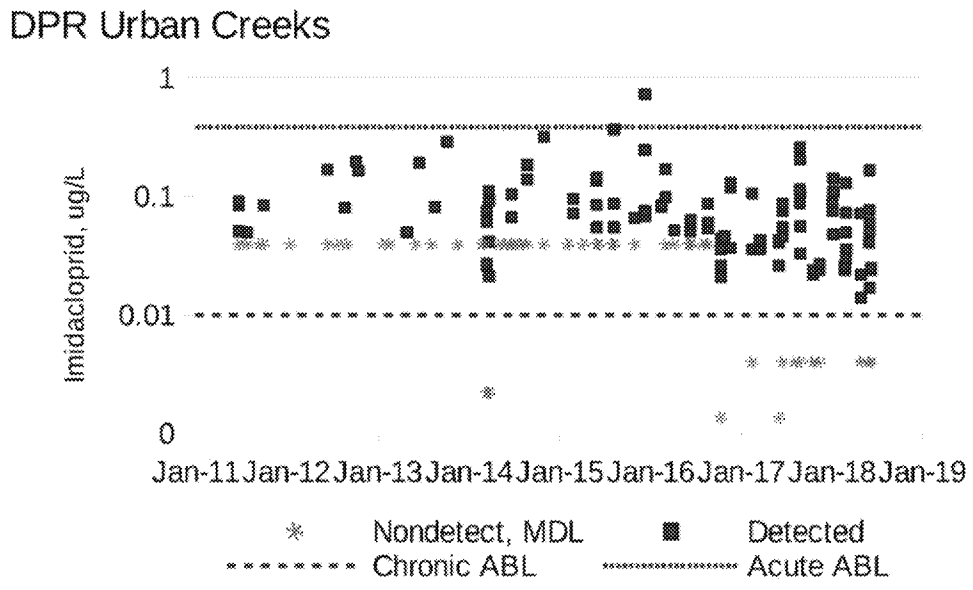
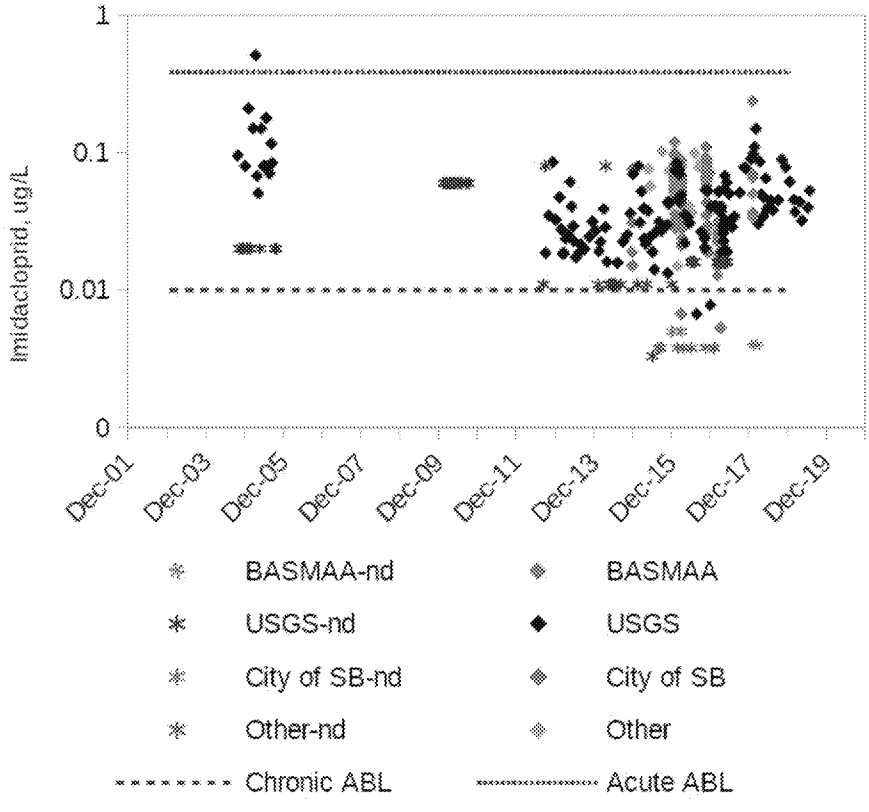


Figure 4. Monitoring Data for Imidacloprid in Urban Creeks, USGS and Local Agencies, 2004-2019



Additional Mitigation Measures Needed

Based on the well documented need to protect aquatic invertebrates in urban surface waters, we have identified additional mitigation measures needed to supplement those proposed in the PID.

If U.S.EPA does not find it appropriate to make these changes on a nationwide basis, we request that CDPR be provided the opportunity to work with U.S.EPA and the registrants to establish California-specific instructions on product labels. Because U.S.EPA controls product labels – the most effective means of controlling product usage – U.S.EPA's explicit approval of state-specific label language is essential. The following label instructions are requested:

- Prohibit outdoor application within 48 hours of expected rainfall
- Adopt label refinements for use as pre-construction termiticide
- Evaluate further reductions to spray application in perimeter bands and spot treatments, as determined by analysis of efficacy data by U.S.EPA and registrants
- Prohibit application of granular products to impervious surfaces
- Reduce or eliminate granular fly bait scatter application on outdoor impervious surfaces
- Prohibit all outdoor "paint-on" applications
- Require end use product labels for all products bearing pesticide claims, including impregnated materials

Details and specific examples, as well as suggested label language are provided in Attachment 2 of this letter.

Agricultural Concerns

The Clean Water Act requires states to define and achieve water quality standards and develop water quality criteria. To address water quality problems from neonicotinoids and derive water quality criteria for imidacloprid,[3] clothianidin, and thiamethoxam, the State of California contracted with the University of California Davis (UC Davis). Under the Clean Water Act, these criteria can be used to set standards necessary to control pollutants entering waterbodies and ensure the protection and enhancement of water quality. In California, neonicotinoids are often detected in surface waters next to agricultural land use activities and at concentrations that consistently exceed the lowest

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[3][HYPERLINK "https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/pesticide_criteria/imidacloprid_report_final_062519.pdf"]

U.S.EPA aquatic life benchmarks. Data for California on current commercial application of pesticides show that neonicotinoid use is increasing in agricultural areas. Surface water monitoring reports for agricultural areas of California show imidacloprid as one of the most often detected insecticidal active ingredients, and often at toxic concentrations.

The Central Coast Water Board compared concentrations of imidacloprid in the central coast region to those reported in a 2015 United States Geological Survey (USGS) national monitoring study[4] and found that concentrations throughout the central coast were much greater. The maximum concentration detected in the USGS study was 0.14 µg/L, while data from the California Department of Pesticide Regulation's (DPR) Surface Water Database (SURF) showed a maximum concentration of 41.1 µg/L in the Central Coast's lower Salinas River watershed. According to SURF data, the average concentration in the lower Salinas River watershed from 2015-2018 was 6.35 µg/L. Both the average and maximum concentration of imidacloprid found in the central coast region were much great than those found nationally.

To improve the effectiveness of neonicotinoid risk mitigation labeling the California Water Boards recommend that U.S.EPA revise neonicotinoid labels to:

1. Establish a maximum allowable annual application rate
2. Prohibit soil application in areas with shallow water tables
3. Include Western Irrigated Agriculture in the vegetative filter strip (VFS) requirement
4. Clarify the description of aquatic habitat and prohibit application directly to aquatic habitat

The recommended label changes are described below and included as an attachment to this report (Attachment 3: Revised Label Language).

Water Quality Data Supporting Label Recommendations

In 2004, the Central Coast Water Board's Irrigated Lands Program required owners and operators of irrigated land used for commercial crop production to conduct ongoing surface water quality trend monitoring and reporting. In response to this requirement the Central Coast Water Quality Preservation Inc. (CCWQP)[5] Cooperative Monitoring Program (CMP) was formed. Monitoring objectives of the CMP include assessment of receiving surface water quality impacts resulting from agricultural irrigation and stormwater discharges. The CMP conducts monitoring monthly at 54 sites generally

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[4] Hladik, M.L., D.W. Kolpin, 2015. First national-scale reconnaissance of neonicotinoid insecticides in streams across the USA. Environ. Chem. 2016, 13, 12-20. [HYPERLINK "http://dx.doi.org/10.1071/EN15061"]
[5] [HYPERLINK "https://ccwqp.org/"]

located downstream of agricultural land use and with known water quality impairments. Data from CMP monitoring in 2017 and 2018 showed a detection and exceedance frequency for imidacloprid of 45 percent (71 out of 159 samples exceeded the U.S.EPA aquatic life benchmark value of 0.01 µg/L).

Surface water monitoring also includes toxicity testing, which is an essential component for evaluating water quality compared to the Basin Plan's narrative toxicity objectives. Toxicology research shows *Chironomus dilutus* is sensitive to low concentrations of neonicotinoids as compared to other benthic macroinvertebrates,[6] and significant toxic effects to *Chironomus dilutus* indicate an exceedance of toxicity objectives.

CMP data collected in 2017 and 2018 show significant toxic effects to the survival of *Chironomus dilutus* in 34 percent of samples (100 of 291 samples). Samples taken in the lower Salinas River and Santa Maria River watersheds were most often toxic to *Chironomus dilutus survival*. Most samples that showed significant toxic effects to the survival of *Chironomus dilutus* had one or more neonicotinoid detections, and usually at concentrations above applicable U.S.EPA aquatic life benchmarks. In 2018 alone, significant toxic effects to the survival of *Chironomus dilutus* occurred in 40 percent of samples. Additionally, 100 percent of samples from 12 CMP monitoring sites in the lower Salinas River and Santa Maria River watersheds, showed significant toxic effects on *Chironomus dilutus* survival. In every sample there was at least one neonicotinoid detected, and usually at concentrations above applicable U.S.EPA aquatic life benchmarks. These watersheds have year-round crop production, perennial streams, and high-water tables.

CDPR also conducts surface water monitoring in agricultural areas of California. CDPR reports show imidacloprid as one of the most often detected insecticidal active ingredients, and often at concentrations that exceed the lowest U.S.EPA aquatic life benchmark. Samples taken in agricultural areas throughout the central coast and southern California had a detection and exceedance frequency of 95 percent in 2017[7]; and a detection and exceedance frequency of 94 percent in 2018.[8]

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[6] [HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/30055027"]

[7] Deng, x. 2018. Surface Water Monitoring for Pesticides in Agricultural Areas in the Central Coast and Southern California, 2017. Retrieved from [HYPERLINK "https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps.htm?filter=surfwater"]

[8]Deng, X. 2019. Surface Water Monitoring for Pesticides in Agricultural Areas in the Central Coast and Southern California, 2018. California Department of Pesticide Regulation. Retrieved from [HYPERLINK "https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps.htm?filter=surfwater"]

Label Recommendation #1: Maximum Allowable Annual Application Rate

The California Water Boards recommend that the U.S.EPA establish a maximum allowable annual application rate of active ingredient per acre, regardless of formulation, application method, and commodity.

As described in the U.S.EPA risk and proposed mitigation documents, products that contain neonicotinoid active ingredients are applied to agricultural crops through seed treatments, soil applications, and foliar sprays. Neonicotinoids are discharged to surface waters from all methods of application[9]. The U.S.EPA states in the imidacloprid risk mitigation proposal that the largest agricultural use for imidacloprid, in terms of pounds active ingredient applied, is in the form of seed treatments, with an average over 700,000 pounds of imidacloprid used annually on various field and vegetable crops. On average, only 5 percent of neonicotinoid coating is absorbed by the crop, leaving 95 percent active ingredient in the soil and soil water, or lost as dust during planting. This is demonstrated in research that shows neonicotinoids are found in the soil of fields planted with treated seeds from a variety of crops. These concentrations in soil have been found to increase in later years with repeated use, plateauing around four to six years. Even after the use of treated seeds has stopped for several years, neonicotinoids are detected.[10,11]

California's central coast is one of the most productive and profitable agricultural regions in the nation, with a gross production value of more than seven billion dollars in 2018 and a contribution of more than 14 percent to California's agricultural economy. The Mediterranean climate allows for multiple cropping cycles per year of high value specialty crops (for example, broccoli, lettuce, and strawberry) and results in agricultural land valued as the most productive and profitable on a per acre basis. Currently, multiple high value specialty crops with individual application limits are grown on the same acreage each year. Multiple cropping cycles per growing season, annually, means application limits per acre are additive and results in over-application each year. This is difficult to ignore, given that the greatest detection of neonicotinoids also occurs in surface waters of central coast agricultural watersheds. An adequate water supply of

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[9] Hladik, M.L., A.R. Main, D. Goulson, 2018. Environmental Risks and Challenges Associated with Neonicotinoid Insecticides. Environ. Sci. Technol. 2018, 52, 3329-3335.
[10] Hladik, M.L., A.R. Main, D. Goulson, 2018, Environmental Risks and Challenges Associated with Neonicotinoid Insecticides. Environ. Sci. Technol. 2018, 52, 3329-3335.
[11] Hladik, M.L., S Bradbury, L.A. Sculte, M. Helmers, C. Witte, D.W. Kolpin, et al. 2017. Neonicotinoid insecticide removal by prairie strips in row-cropped watersheds with historical seed coating use. Agric. Ecosyst. Environ. 241:160-167. Doi: 10.1016/j.agee.2017.03.015

sufficient quality is critical to supporting the agricultural industry in California's central coast.[12]

The following tables show total pounds of neonicotinoid active ingredient applied to central coast crops, both statewide (Table 3) and in four central coast counties alone (Table 4). These crops are commonly grown continuously on the same acreage:

Table 2. Pounds neonicotinoids active ingredient applied statewide to common central coast crops in 2017. Source Data: 2017 DPR PUR report.

	BROCCOLI	LETTUCE, HEAD	LETTUCE, LEAF	STRAWBERRY
ACETAMIPRID	165.55	1,279.17	879.48	4,408.67
CLOTHIANIDIN	2,359.55	983.41	1,146.72	
DINOTEFURAN	706.43	232.65	404.14	
IMIDACLOPRID	40,380.8	47,105.53	71,539.46	4,289.54
THIAMETHOXAM	1170.74	2,748.95	2,492.91	1,028.43

Table 3. Pounds neonicotinoids active ingredient applied to common central coast crops in central coast counties, San Luis Obispo, Monterey, Santa Cruz, and Santa Barbara, in 2017. Source Data: 2017 DPR PUR.

	BROCCOLI	LETTUCE, HEAD	LETTUCE, LEAF	STRAWBERRY
ACETAMIPRID	108.64	397.83	516.00	3,876.71
CLOTHIANIDIN	1,341.57	312.91	363.71	
DINOTEFURAN	247.65	227.50	372.04	
IMIDACLOPRID	7,118.94	6,259.78	5,677.45	2,845.46
THIAMETHOXAM	923.58	2,630.52	2,347.43	880.64

Based on this information, the California Water Boards again recommend that the U.S.EPA establish a maximum allowable annual application rate of active ingredient per acre, regardless of formulation, application method, and commodity. Accounting for total annual use intensity for active ingredient per acre eliminates the over application of neonicotinoids active ingredients within a year.

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[12][HYPERLINK "https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/docs/ag_order4_renewal/2020feb/dao_attachment_a_findings.pdf"]

Recommendation #2: Prohibit Soil Applications in Areas with Shallow Water Tables

The California Water Boards recommend that the U.S.EPA prohibit soil applications in areas with shallow water tables.

Neonicotinoids are highly soluble, have low sorption in soils, and are likely to leach into shallow groundwater that discharges to surface waters. When used in areas with high water tables and surface water connectivity, pollution of shallow groundwater and aquatic habitat is likely. The U.S.EPA has acknowledged this on pesticide labels containing neonicotinoid active ingredients stating, "This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination."

As previously discussed, in the Santa Maria River and lower Salinas River watersheds of the central coast region high concentrations of neonicotinoids are often detected. Both areas have perennial flow, high-water tables, and typically require tile drains. Several areas in the Santa Maria River watershed have such a shallow water table that they cannot be farmed in the rainy season. [13]

First-encountered shallow groundwater depths from environmental monitoring wells in the Santa Maria and the lower Salinas River watersheds indicate that shallow groundwater is encountered within zero to twenty feet. [14] Based on these depths, direct hydraulic communication between stream beds and proximal shallow groundwater is certain.[15, 16] Where there is a low depth to groundwater, there is a high propensity for leaching.

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[13][HYPERLINK "https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/santa_maria/nutrients/1sm_nut_tmdl_att2_projrep.pdf"]

[14] Groundwater depth data from monitoring well records available from the California State Water Resources Control GeoTracker GAMA database, located: [HYPERLINK "https://gamagroundwater.waterboards.ca.gov/gama/gamamap/"]

[15][HYPERLINK "https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/salinas/nutrients/att2_projreport_approved_fin.pdf"]

[16][HYPERLINK "https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/santa_maria/nutrients/1sm_nut_tmdl_att2_projrep.pdf"]

Based on this information, the California Water Boards again recommend that the U.S.EPA prohibit soil applications in areas with shallow water tables.

Recommendation #3: Include Western Irrigated Agriculture in the VFS Requirement

The California Water Boards recommend that the U.S.EPA does not exempt western irrigated agriculture from the 10-foot vegetated filter strip requirement but allows the practice of specific irrigation water management practices to reduce the 10-foot vegetated filter strip requirement or substitute a viable mitigation alternative for western irrigated agriculture.

Although the risk mitigation proposal finds that irrigation runoff is a source of neonicotinoid pollution, it does not propose a vegetative filter strip requirement in western irrigated agriculture. Most California crops are irrigated, and vegetative treatments systems are proven effective in removing pesticides from irrigated runoff.

Vegetated buffer strips and healthy riparian habitats increase soil organic carbon content and result in increased sorption and retention. Satkowski et al 2018, found that neonicotinoid sorption was greatest in soils with high soil organic carbon content. Vegetated buffer strips and riparian soils reduced bioavailability and hydrologic transport of neonicotinoids to surface and groundwaters. Riparian habitat soils showed the greatest reduction in leaching when compared to grass vegetated buffer strip soils and cropland soils.[17]

Research shows that vegetation reduces neonicotinoid mobility. Hladik et al 2017, found that neonicotinoid concentrations in groundwater, surface water runoff, and foot slope soil sampled from areas with 100 percent row-crop seed treatments, two to three years after use of treated seeds had stopped, were similar to those reported in other studies with on-going use of seed coating applications. However, sites with prairie strips had lower concentrations of neonicotinoids in groundwater and less frequent detection of neonicotinoids in surface water runoff; and rarely detected neonicotinoids in foot slope soils. Neonicotinoids were not detected from root, leaf, or flower tissues from prairie strips. These results show the potential of vegetative filter strips to reduce neonicotinoid

[17] Satkowski, L.E., K.W. Goyne, S.H. Anderson, R.N. Lerch, E.B. Webb, and D.D. Snow. 2018. Imidacloprid Sorption and Transport in Cropland, Grass Buffer, and Riparian Buffer Soils. Vadose Zone Journal. 17:170139.

transport from agricultural environments, limiting offsite transport of water, sediment, and pesticides. [18]

The risk mitigation proposal creates an exception for the vegetated filter strip requirement in western irrigated agriculture with the assumptions that water is managed more carefully and that runoff to surface waters is less likely. Surface water monitoring data shows this is not the case, and the California Water Boards recommend that U.S.EPA **does not** exempt western irrigated agriculture from the 10-foot vegetated filter strip requirement. The California Water Boards also recommend the addition of an irrigation water management section that allows alternatives to the 10-foot vegetated filter strip requirement for western irrigated agriculture. Irrigation water discharge is controllable with management practices such as high efficiency drip irrigation, and catchment basins.

The California Water Boards recommend that the U.S.EPA revise the label to add the following section:

> "Irrigation Water Management in Western Irrigated Agriculture
> The 10-foot vegetative filter strip requirement may be reduced if one or more of the following applies:
> - High efficiency irrigation (such as drip irrigation) is used.
> - Irrigation runoff has been eliminated.
> - Catchment basins are functional and maintained in the area of application (i.e. no discharge)."

Recommendation #4: Clarify Description of Aquatic Habitat and Prohibit Application Directly to Aquatic Habitat

The California Water Boards recommend that the U.S.EPA clarify the description of aquatic habitat and add specific language to explicitly say that application to aquatic habitat is prohibited.

Streams are commonly classified by agencies such as Army Corp of Engineers and U.S. Fish and Wildlife Service as either "intermittent" or "perennial." The California Water Boards support the use of these terms because they more accurately identify aquatic habitat and would help applicators and inspectors to implement buffers and

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[18] Hladik, M.L., S Bradbury, L.A. Sculte, M. Helmers, C. Witte, D.W. Kolpin, et al. 2017. Neonicotinoid insecticide removal by prairie strips in row-cropped watersheds with historical seed coating use. Agric. Ecosyst. Environ. 241:160-167. Doi: 10.1016/j.agee.2017.03.015

verify compliance. To clarify the description of aquatic habitat on neonicotinoid labels, common types of water bodies, such as creeks and wetlands, should be added and the term "permanent streams" should be revised to say "intermittent and perennial streams".

The California Water Boards recommend that the U.S.EPA revise the label description of down gradient aquatic habitat to read:

> "...down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; creeks; rivers; intermittent and perennial streams; marshes or other wetlands; ponds; estuaries; and commercial fish farm ponds)."

The California Water Boards also recommend that the U.S.EPA revise the label language to include:

> "Do not apply directly to aquatic habitats."

Agricultural Use Summary

The Mediterranean climate of California allows for continuous, year-round production of high value specialty crops and continuous, year-round application of neonicotinoid pesticides. Data for California on current commercial application of pesticides show that neonicotinoid use is increasing in agricultural areas. Additionally, neonicotinoid active ingredients are increasingly detected at toxic levels in several agricultural watersheds throughout California. Based on data and research, the California Water Boards recommend label changes for agricultural use of neonicotinoids that include 1) an established consistent annual maximum allowable application rate of active ingredient per acre per year, regardless of formulation, application method, and commodity; 2) a prohibition of soil application in areas with shallow water tables; 3) the inclusion of western irrigated agriculture in the 10-foot vegetated filter strip requirement and a section that allows an exemption when irrigation water management practices are in place, and; 4) the clarification of aquatic habitat and specific language to prohibit application directly to aquatic habitat.

The California Water Boards appreciate U.S.EPA's work to help reduce impacts of this specific class of insecticides on aquatic life. We appreciate your consideration of our comments and look forward to working with you on this challenging issue. If you have any questions or requests for additional data, information, or follow-up discussions please contact Rich Breuer at [HYPERLINK "mailto:rich.breuer@waterboards.ca.gov"] or (916) 205-7456 (cell).

Sincerely,

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Attachments:
Attachment 1. Urban Sources Conceptual Model and Sources not included in |the U.S.EPA Risk Assessment Modeling

Attachment 2. Additional Mitigation Measures Needed

Attachment 3. Suggested Agricultural use Imidacloprid Label changes